

WHAT IS CLAIMED IS:

1. A television tuner comprising:

an input terminal configured to receive a television signal in a VHF band or a UHF band;

a VHF tuner unit comprising a VHF tuning circuit coupled to said input terminal, and a first field-effect transistor (FET) configured to at least amplify a television signal in the VHF band;

a switching transistor configured to switch a bias voltage applied to an input terminal of said first FET; and

a UHF tuner unit configured to receive a television signal in the UHF band and coupled to said input terminal via a first switching diode;

wherein a predetermined voltage is applied to an anode of said first switching diode, a power supply voltage is applied to a collector of said switching transistor via a power supply resistor and an emitter of said switching transistor is grounded, the collector of said switching transistor is connected to the input terminal of said first FET via a first resistor, and said first switching diode and said switching transistor are both switched on or off depending on whether the television signal in the UHF band is to be received or the television signal in the VHF band is to be received, respectively.

2. A television tuner according to Claim 1, wherein

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said VHF tuning circuit comprises a second switching diode, said VHF tuning circuit tuning to a high band or a low band of the VHF band dependent on whether said second switching diode is on or off, respectively, a cathode of said first switching diode is connected to the collector of said switching transistor via a second resistor, said predetermined voltage is applied to an anode of said second switching diode, and a first high-level or low-level switching voltage is applied to a cathode of said second switching diode via a third resistor dependent on whether a television signal in said low band is to be received or a television signal in said high band is to be received, respectively.

3. A television tuner according to Claim 1, wherein said UHF tuner unit comprises a second FET configured to amplify the television signal in the UHF band, a peaking coil which tunes to a low band of the UHF band is provided between an input terminal of said second FET and the ground, a high-level or low-level second switching voltage is applied to an input terminal of said second FET via said peaking coil dependent on whether a television signal in the UHF band is to be received or a television signal in the VHF band is to be received, respectively, and said second switching voltage is applied to a base of said switching transistor.

4. A television tuner according to Claim 2, wherein the cathode of said second switching diode and the collector of said switching transistor are connected via a parallel circuit of a fourth resistor and a capacitor.

5. A television tuner according to Claim 2, wherein a third switching diode is provided between the cathode of said second switching diode and the collector of said switching transistor, an anode of the third switching diode being connected to the cathode of said second switching diode and a cathode of the third switching diode being connected to the collector of said switching transistor, and the collector of said switching transistor is grounded via a capacitor.

6. A television tuner according to Claim 2, wherein said UHF tuner unit comprises a second FET configured to amplify the television signal in the UHF band, a peaking coil which tunes to a low band of the UHF band is provided between an input terminal of said second FET and the ground, a high-level or low-level second switching voltage is applied to an input terminal of said second FET via said peaking coil dependent on whether a television signal in the UHF band is to be received or a television signal in the VHF band is to be received, respectively, and said second switching voltage is applied to a base of said switching transistor.

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7. A television tuner according to Claim 4, wherein said UHF tuner unit comprises a second FET configured to amplify the television signal in the UHF band, a peaking coil which tunes to a low band of the UHF band is provided between an input terminal of said second FET and the ground, a high-level or low-level second switching voltage is applied to an input terminal of said second FET via said peaking coil dependent on whether a television signal in the UHF band is to be received or a television signal in the VHF band is to be received, respectively, and said second switching voltage is applied to a base of said switching transistor.

8. A television tuner according to Claim 5, wherein said UHF tuner unit comprises a second FET configured to amplify the television signal in the UHF band, a peaking coil which tunes to a low band of the UHF band is provided between an input terminal of said second FET and the ground, a high-level or low-level second switching voltage is applied to an input terminal of said second FET via said peaking coil dependent on whether a television signal in the UHF band is to be received or a television signal in the VHF band is to be received, respectively, and said second switching voltage is applied to a base of said switching transistor.

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9. A television tuner comprising:

an input terminal configured to receive a television signal in a VHF band or a UHF band;

a VHF tuner unit having a VHF tuning circuit coupled to the input terminal and a first amplification circuit configured to amplify a television signal in the VHF band;

a first switch having a terminal connected with an input terminal of the first amplification circuit through a first resistor, the first switch controlling a voltage applied to the input terminal of the first amplification circuit;

a second resistor connected with the terminal of the first switch, a voltage applied to the terminal of the first switch through the second resistor; and

a UHF tuner unit configured to receive a television signal in the UHF band and coupled to the input terminal via a second switch;

wherein the first and second switch are both switched on when the television signal in the UHF band is received and are both switched off when the television signal in the VHF band is received.

10. A television tuner according to Claim 9, wherein the first switch grounds the input terminal of the first amplification circuit when on and permits a voltage other than ground to be applied to the input terminal of the first amplification circuit when off.

11. A television tuner according to Claim 9, wherein the VHF tuning circuit comprises a third switch that controls tuning of the VHF tuning circuit to a high band or a low band of the VHF band dependent on whether the third switch is on or off, respectively, and the second switch is connected to the terminal of the first switch through a third resistor.

12. A television tuner according to Claim 11, further comprising a parallel combination of a fourth resistor and a capacitor connecting the terminal of the first switch and the third switch.

13. A television tuner according to Claim 11, further comprising a fourth switch disposed between the terminal of the first switch and the third switch, the fourth switch being switched on when the first switch is switched on and being switched off when the first switch is off.

14. A television tuner according to Claim 13, further comprising a capacitor disposed between the fourth switch and ground.

15. A television tuner according to Claim 13, wherein the terminal of the first switch is a collector of a transistor and the second, third, and fourth switches are

diodes.

16. A television tuner according to Claim 9, further comprising a band switching circuit that controls whether an output of the combination of the VHF tuner unit and the UHF tuner unit is supplied by the VHF tuner unit or the UHF tuner unit.

17. A television tuner according to Claim 11, further comprising a band switching circuit having outputs connected with a second terminal of the first switch and connected with the third switch, wherein the band switching circuit controls whether an output of the combination of the VHF tuner unit and the UHF tuner unit is supplied by the VHF tuner unit or the UHF tuner unit.

18. A television tuner according to Claim 11, wherein the UHF tuner unit comprises a second amplification circuit configured to amplify the television signal in the UHF band, an inductor is disposed between an input terminal of the second amplification circuit and the ground and which tunes to a low band of the UHF band, a high-level or low-level switching voltage is applied to an input terminal of the second amplification circuit via the inductor dependent on whether the television signal in the UHF band is to be received or the television signal in the VHF band is to be received, respectively, and the second switching voltage is

applied to an input terminal of the first switch.

19. A television tuner comprising:

a VHF tuner unit to receive a television signal in a VHF band, the VHF tuner unit having a VHF tuning circuit coupled to the input terminal and an amplification circuit to amplify the television signal in the VHF band;

a UHF tuner unit to receive a television signal in a UHF band, the UHF tuner unit connected in parallel with the VHF tuner unit such that a television signal input to the combination of the VHF tuner unit and UHF tuner unit is output from only one of the combination of the VHF tuner unit and UHF tuner unit; and

a first switch connected with the amplification circuit through a resistor and controlling a voltage applied to the amplification circuit, wherein a capacitance of the first switch is decoupled from the VHF tuning circuit.

20. A television tuner according to Claim 19, wherein the VHF tuning circuit comprises a second switch that controls tuning of the VHF tuning circuit to a high band or a low-band of the VHF band dependent on whether the second switch is on or off, respectively.

21. A television tuner according to Claim 20, further comprising a parallel combination of a second resistor and a capacitor connecting the first and second switch.



22. A television tuner according to Claim 20, further comprising a third switch disposed between the first and second switch, the third switch being switched on when the first switch is switched on and being switched off when the first switch is off.

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